Pacific C-A / C-AG

All-in-one Converter box with Scaler

Revision 1.0.1, (October, 2014)

AVITECH

ABOUT THIS MANUAL
This manual contains information on using the Avitech Pacific C-A / C-AG all-in-one converter. There are 2 chapters in this manual.

- ✓ **Getting Started** introduces the features and specifications as well as external components of Pacific C-A / C-AG.
- ✓ **System Configuration** discusses the steps on using the LCD panel to set up Avitech Pacific C-A / C-AG, as well as using the proprietary Avitech PacificConfig utility.

The following conventions are used to distinguish elements of text throughout the manual.

 *provides additional hints or information that require special attention.*

 *identifies warnings which must be strictly followed.*

Any name of a menu, command, icon or button on the screen is shown in a bold typeset. For example: On the **Start** menu select **Settings**.

To assist us in making improvements to this user manual, we welcome any comments and constructive criticism. Email us at: sales@avitechvideo.com.

WARNING
Do not attempt to disassemble the Pacific all-in-one converter module. Doing so may void the warranty. There are no serviceable parts inside. Please refer all servicing to qualified personnel.

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TECHNICAL SUPPORT
For any questions regarding the information provided in this guide, call our technical support help line at 425-885-3863, or our toll free help line at 1-877-AVI-TECH, or email us at: support@avitechvideo.com

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AVITECH INTERNATIONAL CORPORATION
- 15377 NE 90th Street Redmond, WA 98052 USA
- TOLL FREE 1 877 AVITECH
- PHONE 1 425 885 3863
- FAX 1 425 885 4726
- info@avitechvideo.com
- http://avitechvideo.com

Regulatory Information

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Statement of Compliance

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1. Getting Started

The Pacific C-A / C-AG all-in-one Converter box allows conversion of input signals from HDMI/DVI/ VGA/YPbPr/CVBS (NTSC/PAL) and SDI (3G/HD/SD) to HDMI/DVI/VGA/YPbPr and SDI (3G/HD/SD) output signals with scaling. A compact, stand-alone video converter, it is ideal for many professional video conversion applications, including video production, conferencing, presentations, OB vans, post-production, and television broadcasting. It provides automatic video input format detection and audio monitoring, supports a wide variety of video resolutions, and is capable of simultaneous output of VGA, DVI, HDMI, YPbPr and SDI signals.

This chapter introduces the features and specifications as well as external components of Avitech Pacific C-A / C-AG.

1.1 Package Contents

Avitech Pacific C-A / C-AG

Utility Disc (software and user manual)

12 V DC 2.5 A Power Adapter

Magnetic Foot Stand with Screws (4 pcs)

DVI-I to VGA Adapter

DVI-I to YPbPr Adapter (optional)

Rack mount kit (optional)

Table 1-1 Package Contents

1.2 Product Features

The Pacific C-A / C-AG is capable of converting and scaling signals to a high quality HDMI/DVI/VGA/ YPbPr and SDI signals. It can sense the following input signals: HDMI/DVI/VGA/YPbPr/SDI (3G/HD/SD) /CVBS (NTSC/PAL) automatically, then convert and scale them to the user-defined HDMI/DVI/VGA and SDI/YPbPr signal. The Pacific is capable of simultaneous output of DVI, HDMI, and SDI signals with most resolutions.* It also features a **DVI-D LOOP OUT**** port for connection to an external display for monitoring of the signal entering the **DVI-I IN** port.

The Pacific C-A / C-AG also supports area of interest cropping through its LCD interface and through a computer connected to the Pacific C-A / C-AG. Additionally, Avitech's PacificConfig utility*** software can monitor the broadcast output of all networked Pacific devices.

For television broadcast application, the Pacific C-A / C-AG supports the setting of safe area graticules, genlock functions (Pacific C-AG) with timing offset controls, and the embedding of analog stereo audio into the SDI/HDMI output with a user defined time delay. The Pacific also has audio monitoring capabilities through a 1/8 inch stereo headphone jack (which can support up to 170ms of delay).

The LCD interface on the Pacific C-A / C-AG displays its operational status and input signal information. The LCD interface also allows users to fully configure all the Pacific's settings.

** See the Output Resolution Table in the Appendix of this manual for a complete list of resolutions.*
*** DVI-D loop out does not support analog source signals; VGA or YPbPr (through VGA or YPbPr to DVI adapter).*
**** Input port selection, output resolution, and device name and IP address adjustments are also supported by the Avitech PacificConfig software.*
Note: To comply with the HDCP license agreement, any source with HDCP encryption cannot be converted to SDI.

1.3 Specifications

Input	
SDI/CVBS (BNC connector)	Automatic sensing SDI (3G/HD/SD) CVBS (NTSC/PAL): ❖ *NTSC/PAL* ❖ *SD-SDI (SMPTE 259M): 525i60, 625i50* ❖ *HD-SDI (SMPTE 292M): 720p25, 720p29.97, 720p30, 720p50, 720p59.94, 720p60, 1080i50, 1080i59.94, 1080i60* ❖ *3G-SDI (SMPTE 424M): 1080p23.98, 1080PsF24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59.94, 1080p60*
HDMI (HDMI type A)	Automatic sensing, the following input signals are supported: ❖ *640x480, 60Hz/75Hz* ❖ *720×400, 70Hz* ❖ *800x600, 50Hz/60Hz/75Hz* ❖ *1024x768, 50Hz/60Hz/75Hz* ❖ *1280x960, 50Hz/60Hz* ❖ *1280x1024, 50Hz/60Hz/75Hz* ❖ *1360x765, 50Hz/60Hz* ❖ *1400x1080, 50Hz/60Hz* ❖ *1600x1200, 50Hz/60Hz* ❖ *1680x1050, 50Hz/60Hz* ❖ *1920x1080, 50Hz/60Hz* ❖ *1920x1200, 50Hz/60Hz*
DVI-I (DVI-I connector)	Automatic sensing, the following input signals are supported: ❖ *640x480, 60Hz/75Hz* ❖ *720×400, 70Hz* ❖ *800x600, 50Hz/60Hz/75Hz* ❖ *1024x768, 50Hz/60Hz/75Hz* ❖ *1280x960, 50Hz/60Hz* ❖ *1280x1024, 50Hz/60Hz/75Hz* ❖ *1360x765, 50Hz/60Hz* ❖ *1400x1080, 50Hz/60Hz* ❖ *1600x1200, 50Hz/60Hz* ❖ *1680x1050, 50Hz/60Hz* ❖ *1920x1080, 50Hz/60Hz* ❖ *1920x1200, 50Hz/60Hz*
VGA/YPbPr (through adapter)	Automatic sensing, through adapter in DVI-I IN port; input signals supported: ❖ *800x600, 50Hz/60Hz* ❖ *1024x768, 50Hz/60Hz* ❖ *1280x960, 50Hz/60Hz* ❖ *1280x1024, 50Hz/60Hz* ❖ *1360x765, 50Hz/60Hz* ❖ *1400x1080, 50Hz/60Hz* ❖ *1600x1200, 50Hz/60Hz* ❖ *1680x1050, 50Hz/60Hz* ❖ *1920x1080, 50Hz/60Hz* ❖ *1920x1200, 50Hz/60Hz* *If the refresh rate is not 60Hz, the image could become out of alignment. In this case, use the "VGA Adjustment" feature to realign. "H START, V START, WIDTH, HEIGHT, and H TOTAL" (through LCD interface).*
Genlock (BNC connector)	Frame synchronizer (Ref IN port) *Note: Port is not available for the Pacific C-A model without genlock feature.*
Audio (Phono jack)	Analog audio (AUDIO IN port, stereo) AES/EBU (embedded)

Input	
Ethernet (RJ45 connector)	For connecting to a computer and using Avitech PacificConfig utility or performing advanced operations (IP port).

Output	
SDI (BNC connector)	User configurable (support SMPTE 259M, 292M, and 424M at YCbCr 4:2:2/4:4:4 or RGB 4:4:4, 10-/12-bit): ❖ *SD-SDI: 487i59.94, 576i50* ❖ *HD-SDI: 720p23.98, 720p24, 720p25, 720p29.97, 720p30, 720p50, 720p59.94, 720p60, 1080PsF23.98, 1080PsF24, 1080i50, 1080i59.94, 1080i60* ❖ *3G-SDI: 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59.94, 1080p60* User configurable (support SMPTE 425M at XYZ 4:4:4 or RGB 4:4:4, 12-bit): ❖ *3G-SDI: 2048p23.98, 2048p24* SDI Embedded Audio (SDI OUT port) *Note: For models (Pacific C-A) without genlock feature (no **Ref IN** port); the following refresh rates are not supported 23.98, 29.97 and 59.94Hz.*
YPbPr (DVI-I connector)	User configurable: ❖ *480i59.94* ❖ *576i50* ❖ *720p50, 720p59.94, 720p60* ❖ *1080PsF23.98, 1080PsF24* ❖ *1080i50, 1080i59.94, 1080i60* ❖ *1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59.94, 1080p60* *Note: For models (Pacific C-A) without genlock feature (no **Ref IN** port); the following refresh rates are not supported 23.98, 29.97 and 59.94Hz.*
HDMI (HDMI type A)	User configurable: ❖ *800x600, 50Hz/60Hz/75Hz* ❖ *1024x768, 50Hz/60Hz/75Hz* ❖ *1280x720, 50Hz/60Hz/75Hz* ❖ *1280x768, 50Hz/60Hz/75Hz* ❖ *1280x1024, 50Hz/60Hz/75Hz* ❖ *1360x768, 50Hz/60Hz/75Hz* ❖ *1400x1050, 50Hz/60Hz/75Hz* ❖ *1440x900, 50Hz/60Hz/75Hz* ❖ *1600x1200, 50Hz/60Hz/75Hz* ❖ *1680x1050,50Hz/60Hz/75Hz* ❖ *1920x1080, 50Hz/60Hz*
DVI-I (DVI-I connector)	User configurable: ❖ *640x480, 60Hz* ❖ *800x600, 50Hz/60Hz/75Hz* ❖ *1024x768, 50Hz/60Hz/75Hz* ❖ *1280x720, 50Hz/60Hz/75Hz* ❖ *1280x768, 50Hz/60Hz/75Hz* ❖ *1280x1024, 50Hz/60Hz/75Hz* ❖ *1360x768, 50Hz/60Hz/75Hz* ❖ *1400x1050, 50Hz/60Hz/75Hz* ❖ *1440x900, 50Hz/60Hz/75Hz* ❖ *1600x1200, 50Hz/60Hz/75Hz* ❖ *1680x1050,50Hz/60Hz/75Hz* ❖ *1920x1080, 50Hz/60Hz* ❖ *1920x1200, 50Hz/60Hz*

Output	
VGA (DVI-I connector)	User configurable: ❖ *640x480, 60Hz* ❖ *800x600, 50Hz/60Hz/75Hz* ❖ *1024x768, 50Hz/60Hz/75Hz* ❖ *1280x720, 50Hz/60Hz/75Hz* ❖ *1280x768, 50Hz/60Hz/75Hz* ❖ *1280x1024, 50Hz/60Hz/75Hz* ❖ *1360x768, 50Hz/60Hz/75Hz* ❖ *1400x1050, 50Hz/60Hz/75Hz* ❖ *1440x900, 50Hz/60Hz/75Hz* ❖ *1600x1200, 50Hz/60Hz/75Hz* ❖ *1680x1050,50Hz/60Hz/75Hz* ❖ *1920x1080, 50Hz/60Hz* ❖ *1920x1200, 50Hz/60Hz*
DVI-D Loopout (DVI-D connector)	Looping output of the DVI-I input (non-configurable and not available for VGA or YPbPr signal through DVI adapter): ❖ *640x480, 60Hz/75Hz* ❖ *720×400, 70Hz* ❖ *800x600, 50Hz/60Hz/75Hz* ❖ *1024x768, 50Hz/60Hz/75Hz* ❖ *1280x960, 50Hz/60Hz* ❖ *1280x1024, 50Hz/60Hz/75Hz* ❖ *1360x765, 50Hz/60Hz* ❖ *1400x1080, 50Hz/60Hz* ❖ *1600x1200, 50Hz/60Hz* ❖ *1680x1050, 50Hz/60Hz* ❖ *1920x1080, 50Hz/60Hz* ❖ *1920x1200, 50Hz/60Hz*
Audio (Headphone jack)	Analog Audio (audio out port) Stereo

Others	
Power	Power consumption is 15 W maximum ❖ *Input (AC): 100 to 250 V* ❖ *Output (DC): 12 V adapter*
Dimensions/ Weight	Dimensions: 174×172×43 mm (6.85×6.77×1.69 inch) Weight: 740 g (1.63 lb)
Environment/ Safety	Temperature: ❖ *Operating: 0 ℃ (32 ℉) to 40 ℃ (104 ℉)* ❖ *Storage: –10 ℃ (14 ℉) to 50 ℃ (122 ℉)* Humidity: 0% to 80% relative, non-condensing Safety: FCC/CE/C-Tick/Class A

Table 1-2 Specifications

1.4 Connections to the Pacific C-A / C-AG

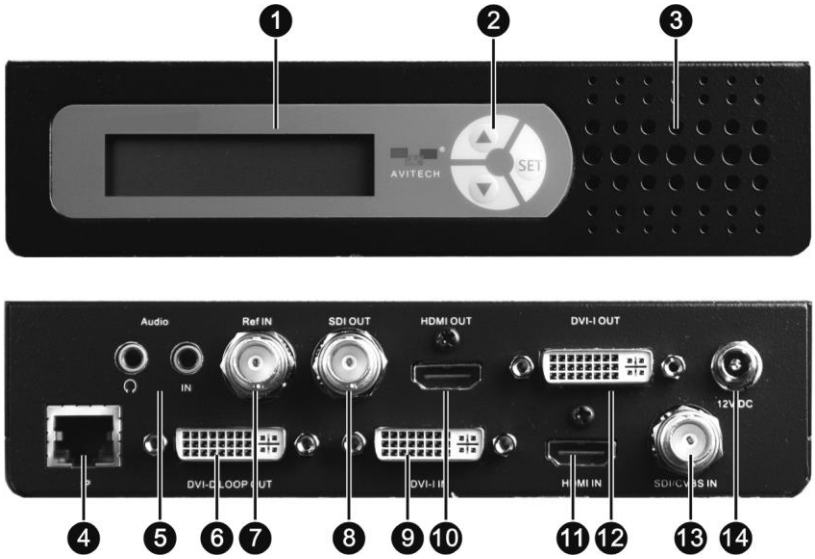


Figure 1-1 Pacific C-A / C-AG Components

Front Panel	
❶ **LCD Panel**	Displays the configuration and control parameters
❷ **Control Buttons**	▲ Go to previous selection ▼ Go to next selection SET Enters next menu level or select item
❸ **System Fan**	Contains the system fan*

Rear Panel	
❹ **Ethernet (IP)**	Allows a computer to control the Pacific C-A / C-AG through a network connection through an Ethernet cable. (use with Avitech's PacificConfig utility software)
❺ **Audio In/Out**	❖ 🎧 Connects to the green connector for headphone function (stereo) ❖ **IN** Connects to the pink connector for analog audio input
❻ **DVI-D LOOP OUT**	DVI connector for DVI video out loop (output signal coming from DVI-I IN port only)** *Note: Often used for preview when the connected desktop computer is only capable of supporting a single display output*
❼ **Ref IN**	Multi-format sync reference input (YPbPr/NTSC/PAL) for genlock function (frame synchronizer) *Note: Port is not available for model (Pacific C-A) without genlock feature.*
❽ **SDI OUT**	BNC connector supports SDI (3G/HD/SD) signal output
❾ **DVI-I IN**	DVI connector for DVI/VGA/YPbPr input sources (a DVI to VGA adapter or DVI to YPbPr adapter may be required)
❿ **HDMI OUT**	Connects to the monitor's HDMI signal cable
⓫ **HDMI IN**	HDMI connector for HDMI input source***

Rear Panel	
⓬ **DVI-I OUT**	Connects to the monitor's DVI / YPbPr and VGA (through adapter) signal cable
⓭ **SDI/CVBS IN**	BNC connector for SDI (3G/HD/SD) / CVBS (NTSC/PAL) video sources
⓮ **Power (DC 12V)**	Connects to the 12 V DC power adapter

Table 1-3 Pacific C-A / C-AG Component Description

** Do not cover or block the ventilation openings.*
*** DVI-D loop out does not support analog source signals; VGA or YPbPr (through VGA or YPbPr to DVI adapter).*
**** To comply with the HDCP license agreement, any source with HDCP encryption cannot be converted to SDI.*

2. System Configuration

This chapter discusses the process of using the LCD panel to set up the Pacific C-A / C-AG, as well as instructions on how to use the Avitech PacificConfig utility software.

2.1 Using the LCD Panel

The LCD panel allows for control of the Pacific C-A / C-AG including features such as input/output signal adjustments, video cropping, keying/overlay, aspect ratio adjustments and operational status reports. The LCD panel consists of 3 buttons:

▲ Go to previous selection (up arrow button)
▼ Go to next selection (down arrow button)
SET Enter the next level of a menu, or select the currently highlighted item.

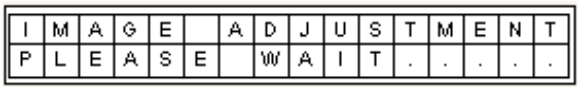


Figure 2-1 LCD Panel: Busy State

⚠ *1. When the busy state "**PLEASE WAIT . . . .**" message is displayed on the LCD panel (see sample screen above), **DO NOT** disconnect or connect any signal cables as a fault may occur.*
*2. Also, **DO NOT** change any of the incoming signal's display resolutions while the Pacific C-A / C-AG is in the busy state.*

2.1.1 Welcome Screen

Upon starting up the LCD panel, the welcome screen is shown for about 15 seconds.

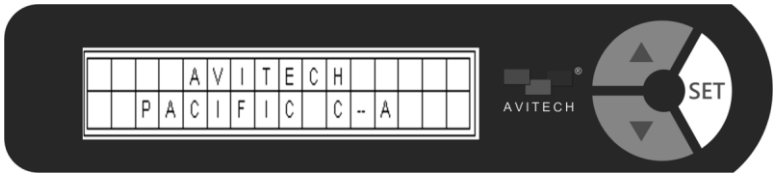


Figure 2-2 LCD Panel: Welcome Screen

Then the following default screen is displayed.

Figure 2-3 LCD Panel: Default Initial Screen

This screen displays the unit's default settings.
*1. First line (video): **A**utomatically selects the input signal in the following order (firstly CVBS, SDI, YPbPr, VGA, DVI, and lastly HDMI) when more than one signal type is detected.*
*Then, outputs it at **1080p** @ **60**Hz.*
*Note: Due to the screen display size constraint, (**A**:AUTO, **H**:HDMI, **V**:VGA, **Y**:YPbPr, **S**:SDI, **D**:DVI).*
*2. Second line (audio): The default audio signal source is set at "Follow Video" (e.g., **HDMI**). The audio feature allows the selection of an audio signal source (Follow Video, HDMI, SDI, LINE IN). By default the audio time delay is set to: **0** (no audio delay). The Pacific C-A / C-AG supports up to 170ms of time delay.*

⚠ *Settings made through the LCD panel will be saved automatically upon powering off the Pacific.*

2.1.2 Navigating the Main Menu

1. Press the SET button from the default initial screen to enter the main menu.
2. Use the buttons on the front panel to navigate: (▲ / ▼ / SET)
3. There are a number of tables below, each detailing an item on the main menu (Input Port, Output Port… etc.) Within each table is listed the choices that can be made within each item.

Main Port	
Autoscan	**On**: enables the signal automatic detection feature of the main port. **Off**: selects the signal manually of the main port. ❖ ***Source****:* ✓ ***HDMI*** ✓ ***DVI*** ✓ ***VGA*** ✓ ***YPbPr*** ✓ ***SDI*** *Note: The DVI or HDMI source is not available when "PIP PORT" →"SOURCE"→ is set at "HDMI" or "DVI".*
Exit	Exits the main port setup menu.

Table 2-1 Main Port

DVI-D loop out does not support analog source signals; VGA or YPbPr (through VGA or YPbPr to DVI adapter).

If selecting the signal manually, make sure to select the correct signal type based on the actual connected input signal to the Pacific C-A / C-AG to avoid image display problems (e.g., noise, flicker, etc.).

PIP Port	
Source	**On**: enables the picture in picture feature. **Off**: disables the picture in picture feature. ❖ ***Source****:* ✓ ***HDMI*** ✓ ***DVI*** ✓ ***VGA*** ✓ ***YPbPr*** ✓ ***SDI*** *Note: The DVI or HDMI source is not available when "MAIN PORT" →"SOURCE"→ is set at "HDMI" or "DVI".*
Status	Adjusts the pip window location. ❖ ***LEFT****: sets the horizontal starting point.* ❖ ***TOP****: sets the vertical starting point.* ❖ ***RIGHT****: sets the horizontal ending point.* ❖ ***BOTTOM****: sets the vertical ending point.*
Exit	Exits the pip port setup menu.

Table 2-2 PIP Port

Output Port	
SDI Enable	**On**: enables SDI out feature (default setting). **Off**: disables SDI out feature.
YPbPr Enable	**On**: enables YPbPr out feature. **Off**: disables YPbPr out feature (default setting). *Note: Make sure to select "Off" when outputting VGA signal on "DVI-I*

Output Port	
	OUT" port (through DVI-I to VGA adapter) to avoid a color display problem.
Standard	**SMPTE**: select this for SDI/YPbPr output. **VESA**: select this for HDMI/DVI/VGA output.
Output Timing	For SMPTE standard, select the following output signal. ❖ ***2048p @ 23.98, 24*** *(Hz)* ❖ ***1080p @ 23.98, 24, 25, 29.97, 30, 50, 59.94, 60*** *(Hz)* ❖ ***1080i @ 50, 59.94, 60*** *(Hz)* ❖ ***1080PsF @ 23.98, 24*** *(Hz)* ❖ ***720p @ 23.98, 24, 25, 29.97, 30, 50, 59.94, 60*** *(Hz)* ❖ ***SD_625 (576i @ 50*** *Hz)* ❖ ***SD_525 (487i @ 59.94*** *Hz)* For VESA standard, select the following output signal. ❖ ***1920x1200 @ 50, 60*** *(Hz)* ❖ ***1920x1080 @ 50, 60*** *(Hz)* ❖ ***1680x1050 @ 50, 60, 75*** *(Hz)* ❖ ***1600x1200 @ 50, 60, 75*** *(Hz)* ❖ ***1440x900 @ 50, 60, 75*** *(Hz)* ❖ ***1400x1050 @ 50, 60, 75*** *(Hz)* ❖ ***1360x768 @ 50, 60, 75*** *(Hz)* ❖ ***1280x1024 @ 50, 60, 75*** *(Hz)* ❖ ***1280x768 @ 50, 60, 75*** *(Hz)* ❖ ***1280x720 @ 50, 60, 75*** *(Hz)* ❖ ***1024x768 @ 50, 60, 75*** *(Hz)* ❖ ***800x600 @ 50, 60, 75*** *(Hz)* ❖ ***640x480 @ 60*** *(Hz)* *Note: For models (Pacific C-A) without the genlock feature (no **Ref IN** port); 23.98, 29.97 and 59.94Hz refresh rates are **not** supported.*
Exit	Exits the output signal setup menu.

Table 2-3 Output Port

Map Structure	
Status	Selects the desired "sampling structure/pixel depth" based on output signal's "image format" and "frame/field rate." ❖ ***YCbCr422→10-bit→425M Level A/B*** ***425M Level B*** *is only available for 1080p@50, 1080p@59.94, 1080p@60, 2048p@23.98, 2048p@24 (Hz)* ❖ ***YCbCr444→10-bit→425M Level A*** ❖ ***RGB444→12-bit→425M Level A/B*** ❖ ***XYZ444→12-bit→425M Level A/B***
Exit	Exits the map structure setup menu.

Table 2-4 Map Structure

1. *Map structure is not available when "OUTPUT PORT"→"STANDARD"→ is set at "VESA."*
2. *Map structure is locked at YCbCr422 when output resolution is at SD_525, SD_625, 1080p@50, 1080p@59.94, 1080p@60 (Hz).*
3. *Map structure can only be RGB444 or XYZ444 when output resolution is at 2048p@23.98, 2048p@24 (Hz).*

OSD (on screen display)	
Color Bar	**On**: enables the color bar and current pattern select feature. The color bar can only be turned on when there is no input signal. (default setting is **On**) ❖ ***COLOR BAR***

OSD (on screen display)	
	❖ ***2×2 CROSSHATCH***
	Off: disables the display of the color bar.
Exit	Exits the OSD setup menu.

Table 2-5 OSD

The color bar feature is a pattern generator for showing a signal when there is no input signal. It can be utilized as test pattern (input signal) for self testing or verification for other devices.

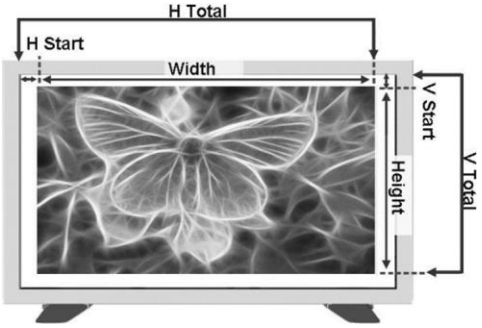
Image Adjustment	
Status	The input port currently selected is displayed as follows, (Input Port: VGA, Input Port: CVBS, etc.) If the selected input is digital such as SDI, DVI, or HDMI then the "VGA Adjustment" and "CVBS/YPbPr Adjustment" portions of the image adjustment menu are not available. With digital signals use the ("Image Adjustment" / "Parameter") portion of the menu. When the selected input signal is VGA, CVBS, or YPbPr, the "VGA Adjustment" and "CVBS/YPbPr Adjustment" portions of the "Image Adjustment" menu are available. ❖ *Auto-detect (firstly CVBS, SDI, YPbPr, VGA, DVI, and lastly HDMI)* ❖ ***VGA Adjustment**: this feature is designed to adjust an analog VGA signal that may be misaligned or off-color due to a long cabling situation.* *Note: Only available when the signal is VGA.* ✓ ***DEFAULT*** ✓ ***HSTART** (horizontal starting position)* ✓ ***WIDTH** (horizontal "active area")* ✓ ***VSTART** (vertical starting position)* ✓ ***HEIGHT** (vertical "active area")* ✓ ***HTOTAL** (horizontal total) ****(refer to the figure below)* *Make sure the value of **HSTART** added to the value of **WIDTH** does not exceed **HTOTAL**.* *Note: V TOTAL: (vertical total) ****(refer to the figure below)* *Make sure the value of **VSTART** added to the value of **HEIGHT** does not exceed V TOTAL.*  ✓ ***REDGAIN*** ✓ ***GREENGAIN*** ✓ ***BLUEGAIN*** ✓ ***AUTO ADJUST** (performs automatic alignment of VGA image inside the window)* ✓ ***AUTO GAIN** (performs automatic gain adjustment by correcting the color values)* ❖ ***CVBS/YPbPr Adjustment**: this feature is designed to adjust a CVBS or YPbPr misaligned or color-off signal due to a long cabling situation.* *Note: Only available when the signal is CVBS or YPbPr.* ✓ ***DEFAULT*** ✓ ***HSTART** (horizontal starting position)*

Image Adjustment	
	✓ ***WIDTH*** *(horizontal "active area")* ✓ ***VSTART*** *(vertical starting position)* ✓ ***HEIGHT*** *(vertical "active area")* ✓ ***HTOTAL*** *(horizontal total) ****(refer to the figure above)* *Make sure the value of* ***HSTART*** *added to the value of* ***WIDTH*** *does not exceed* ***HTOTAL****.* *Note: V TOTAL: (vertical total) ****(refer to the figure above)* *Make sure the value of* ***VSTART*** *added to the value of* ***HEIGHT*** *does not exceed V TOTAL.* ❖ ***Parameter****:* ✓ ***LAMBDA*** *(only available when output signal is set at 2048p@23.98, 2048p@24 and Map Structure is set at XYZ444) ** ✓ ***BRIGHTNESS*** ✓ ***CONTRAST*** ✓ ***SHARPNESS*** ✓ ***SATURATION*** *(only available when signal is non-RGB; or HDMI YCbCr422 / interlaced. It can only be set for YUV color space.)* ✓ ***HUE*** *(only available when signal is non-RGB; or HDMI YCbCr422 / interlaced. It can only be set for YUV color space.)* ✓ ***DEFAULT***
Exit	Exits the image adjustment setup menu.

Table 2-6 Image Adjustment

1. Image misalignment is most likely to occur with VGA signals in the 50Hz timing frequency range and the less commonly used resolutions in the 60Hz timing frequency range.
   a) When switching between VGA resolution signals that have timing frequencies (horizontal and vertical frequency, vertical total) that are very similar, image misalignment may occur.
   b) e.g., 1280×1024 60Hz change to 1400×1050 60Hz (adjust HSTART/VSTART/WIDTH/HEIGHT) back to 1280×1024 60Hz (since the timing frequency is very near that of 1400×1050 60Hz, adjust HSTART/VSTART/WIDTH/HEIGHT for 1280×1024 60Hz again to prevent image misalignment).

2. Depending on the signal type, ***SATURATION*** *and* ***HUE*** *can only be set for YUV color space.*
   a) YUV is a color space typically used as part of a color image pipeline. Taking human perception into account, YUV encodes a color image or video, allowing reduced bandwidth for chrominance components. This typically masks transmission errors or compression artifacts more efficiently than using a "direct" RGB-representation.
   b) When the HDMI signal is transmitted under YCbCr422 color space (set from HDMI device itself), Pacific C-A / C-AG will enable the ***SATURATION*** *and* ***HUE*** *function in* ***IMAGE PARAMETER*** *menu. If the HDMI signal is under YCbCr444 color space, the* ***SATURATION*** *and* ***HUE*** *functions will be disabled.*

*

In compliance with ST 431-1:2006 (SMPTE standard that specifies the absolute luminance level, white point chromaticity, and luminance uniformity of the reflected screen light for the presentation of motion pictures by projectors with digital light engines in review rooms and commercial cinemas. The purpose of this specification is to achieve the tone scale and contrast in the projected image that will correspond to that intended during the mastering process), this item allows the adjustment of the "L" value in the decoding equation for luminance: $Y = \left(\frac{52.37}{L}\right) * \left(\frac{Y'}{4095}\right)^{2.6}$ *where Y' is the DCDM (Digital Cinema Distribution Master) code value for luminance, Y is luminance, and L is 48.0.*

The following "white luminance value" table includes the value for (Parameter), (Reference), (Review Room Tolerances), and (Theater Tolerances).

Parameter	Reference	Review Room Tolerances	Theater Tolerances
Luminance, center 100% white	48.0 cd/m² (14.0 fL)	±3.5 cd/m² (± 1.00 fL)	±10.2 cd/m² (± 3.00 fL)

***MAKE SURE** that 48.0 cd/m² is the basis (Reference) for the adjustment, then use the "Lambda" item in the LCD panel (–10 to 10) to adjust the Theater Tolerance.*

- ✓ *Reference: The desired parameter level or value. This is the value relative to defined tolerances.*
- ✓ *Review Room: A theater in which critical image decisions are made.*
- ✓ *Theater: A facility in which a paying customer views the images.*

The projector should be set-up and run according to the manufacturer's specifications. For these measurements, the projector must be turned on and allowed to stabilize for at least 20 minutes before any measurements are taken. The room lights in the theater should be turned off (except for lighting provided for safety reasons), in order to equal the normal theater operating conditions. The projector must receive images defined by the X'Y'Z' code values (refer to the next table; the last column when added up corresponds to the "L" value of approximately 48.0).

	Code Values			Chromaticity Coordinates		Luminance
Primary	X'	Y'	Z'	x	y	Y, cd/m²
Red	2901	2171	0	0.6800	0.3200	10.06
Green	2417	3493	1222	0.2650	0.6900	34.64
Blue	2014	1416	3816	0.1500	0.0600	3.31

Crop Image	
Status	**On**: adjusts the crop area and location. ❖ ***LEFT**: sets the horizontal starting point.* ❖ ***TOP**: sets the vertical starting point.* ❖ ***RIGHT**: sets the horizontal ending point.* ❖ ***BOTTOM**: sets the vertical ending point.* ❖ ***DEFAULT*** **Off**: disables the crop image feature.
Exit	Exits the crop image setup menu.

Table 2-7 Crop Image

1. *The **CROP IMAGE** feature will be turned **Off** when **KEYING** feature is enabled.*
2. *Make sure the difference in value between **LEFT** and **RIGHT** is not less than 20% (e.g., **LEFT** = **80.0% RIGHT** = **100.0%**). Likewise, the difference in value between **TOP** and **BOTTOM** must not be less than 20% (e.g., **TOP** = **80.0% BOTTOM** = **100.0%**). Put simply, the smallest crop size that is valid is 20% the total height by 20% the total width.*

Aspect Ratio	
Status	**On**: sets the display's aspect ratio. ❖ ***4:3*** ❖ ***16:9*** ❖ ***AUTO*** ❖ ***CUSTOM*** ***1*** *to* ***20*** *for width ratio :* ***1*** *to* ***20*** *for height ratio.* **Off**: disables the aspect ratio detect feature.
Exit	Exits the aspect ratio setup menu.

Table 2-8 Aspect Ratio

1. *The **ASPECT RATIO** feature will be turned **Off** when **KEYING** feature is enabled.*
2. *When the width is greater than the height, the width cannot be more than 6 times the value of the height. (6:1 ratio)*
3. *Likewise, when the height is greater than the width, the height cannot be more than 6 times the value of the width. (1:6 ratio)*

Keying (Overlay)	
Status	**On**: This superimposes the inputted computer image on top of an existing video signal. This feature works best with green screens and virtual sets. ❖ ***CROP IMAGE****: set the crop area parameters.* ❖ ***OUTPUT WINDOW****: set output video range.* ❖ ***BACKGROUND COLOR****: set background color range (RGB)* ❖ ***DEFAULT*** **Off**: disables the keying feature.
Exit	Exits the keying setup menu.

Table 2-9 Keying

*The **KEYING** feature will be turned Off when the **CROP IMAGE** or **ASPECT RATIO** features are enabled.*

Color Correct(ion)	
Status	**On**: enables the color correction feature. **Off**: disables the color correction feature.
Exit	Exits the color correction setup menu.

Table 2-10 Color Correction

1. *This function is applicable for 1080p input signal only.*
2. *When the Pacific C-A / C-AG (SDI OUT) is connected to the Pacific C-SHS (SDI IN), make sure that the Pacific C-A / C-AG's **COLOR CORRECT** function is enabled (set **On**) and the Pacific C-SHS's **COLOR CORRECT** function is disabled (set **Off**) to allow the embedded color corrected signal to pass through.*

Genlock	
Status	**On**: This feature in the Pacific C-AG synchronizes the video sources (Signals from **DVI-I IN**, **SDI/CVBS IN**, and **HDMI IN** ports will be synchronized with the **Ref IN** port signal). ❖ ***GENLOCK OUTPUT****: refer to table 2-11 for more details on supported output standard.* ❖ ***TIMING OFFSET****: sets the delay lines.* ✓ *for SD 525 signal up to 524 delay lines* ✓ *for SD 625 signal up to 624 delay lines* ✓ *for 720p signal up to 749 delay lines* ✓ *for 1080p or 1080i or 2048p signal up to 1124 delay lines* **Off**: disables the genlock feature.

Genlock	
Exit	Exits the genlock setup menu.

Table 2-11 Genlock

1. *For models (Pacific C-A) without the genlock feature, this item is not available for configuration.*
2. *Genlock feature is not available when "OUTPUT PORT"→"STANDARD" is set to "VESA."*
3. *The genlock feature requires a sync reference signal entering the **Ref IN** port. Changing or disconnecting the sync reference will cause the Pacific to automatically turn off genlock.*

		Selected SDI Output Standard																								
		525	625	720p60	720p59.94	720p50	720p30	720p29.97	720p25	720p24	720p23.98	1080i60	1080i59.94	1080i50	1080p60	1080p59.94	1080p50	1080p30	1080p29.97	1080p25	1080p24	1080p23.98	1080PsF24	1080PsF23.98	2048p23.98	2048p24
Reference Input Standard	525	✔			✔								✔			✔										
	625		✔			✔								✔			✔										
	480p59.94				✔								✔			✔										
	576p50					✔								✔			✔										
	720p60			✔								✔			✔											
	720p59.94	✔			✔								✔			✔										
	720p50		✔			✔								✔			✔										
	720p30			✔			✔					✔			✔			✔									
	720p29.97	✔			✔			✔					✔			✔			✔								
	720p25		✔			✔			✔					✔			✔				✔						
	720p24									✔											✔		✔				✔
	720p23.98										✔											✔		✔	✔		
	1080p60			✔								✔			✔												
	1080p59.94	✔			✔								✔			✔											
	1080p50		✔			✔								✔			✔										
	1080p30			✔			✔					✔			✔			✔									
	1080p29.97	✔			✔			✔					✔			✔			✔								
	1080p25		✔			✔			✔					✔			✔				✔						
	1080p24									✔											✔		✔				✔
	1080p23.98										✔											✔		✔	✔		
	1080i60			✔								✔			✔												
	1080i59.94	✔			✔								✔			✔											
	1080i50		✔			✔								✔			✔										
	1080PsF24																						✔				
	1080PsF23.98																							✔			

Table 2-12 Genlock Output

Headphone	
Status	**Enable**s audio output through headphones. ❖ ***SOURCE****: selects from the available 4 source channels.* ✓ ***CH1***, ***CH2***, ***CH3***, ***CH4*** ❖ ***MIX MODE****: selects the left/right/both channels.* ✓ ***LCH***, ***RCH***, ***R/L*** ❖ ***VOLUME****: adjusts the volume.* ✓ ***1*** *up to* ***127*** *(level – Each press of the SET button moves one cursor position to the right. A long press of SET button accepts the value entered).*
Exit	Exits the headphone setup menu.

Table 2-13 Headphone

Audio	
Status	**On**: enables the audio output. ❖ ***SOURCE****: selects the audio source.* ✓ ***HDMI*** ✓ ***LINE IN*** ✓ ***SDI*** ❖ ***DELAY****: sets the delay times.* ✓ ***0*** *to* ***170****ms, sample rate at 48kHz (Each press of the SET button moves one cursor position to the right. A long press of SET button accepts the value entered).* ❖ ***FOLLOW VIDEO****: enables (****On****) auto switching of audio source to selected video source.* **Off**: disables the audio output.
Exit	Exits the audio setup menu.

Table 2-14 Audio

Setup	
Backlight	**On**: enables the LCD panel's backlight. **Off**: disables the LCD panel's backlight.
Contrast	Sets the LCD panel's contrast from **0** to **16**.
Idle Time	**On**: scrolling text (conversion format and related frame rate) will appear when the LCD panel of Pacific C-A / C-AG is idle. ❖ ***15 mins*** ❖ ***30 mins*** ❖ ***45 mins*** ❖ ***60 mins*** **Off**: disables the scrolling text feature.
Reset	**On**: resets to default setting, system reboot is required. **Off**: keeps present setting.
BIOS Version	Shows the current firmware version for reference.
IP Address	Allows user to modify the **IP ADDRESS**, **SUBNET MASK**, and **GATEWAY** based on their Ethernet environment. *Note: Each press of the SET button moves one cursor position to the right. A long press of SET button accepts the value entered.*
Exit	Exits the setup menu.

Table 2-15 Setup

2.2 Using the Avitech PacificConfig Utility

This utility can only be used with the Windows operating system.

The Pacific C-A / C-AG comes with a windows based user interface called PacificConfig. Avitech's PacificConfig utility is easy to use and hosts several powerful tools including:

- ✓ *Input port selection*
- ✓ *Easy adjustment of the output resolution and timing*
- ✓ *The ability to control up to 153 Pacific converters through a network connection*

2.2.1 PacificConfig Utility Control Panel

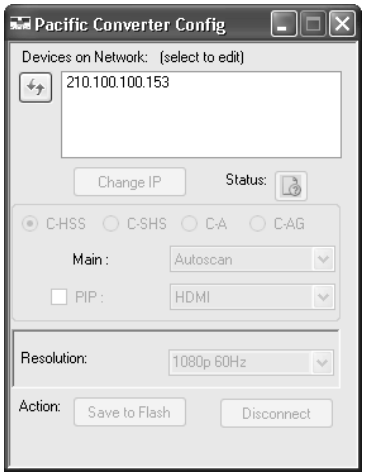


Figure 2-4 PacificConfig Utility Control Panel

Status Information	
Devices on Network	Displays all detected Avitech Pacific Converters in the same network mask. The status button will become active (not grayed-out) when Pacific C-A / C-AG / C-HSS / C-SHS is selected from the Devices on Network window.
IP List Refresh Button	Click the IP list refresh button to update the connected Avitech devices' IP addresses in the same network mask.
Change IP	Changes the IP address of the selected Pacific C-A / C-AG / C-HSS / C-SHS.
Status Button	View the operational status of the selected Pacific C-A / C-AG / C-HSS / C-SHS.
C-A / C-AG / C-HSS / C-SHS	Displays what type of Pacific converter is currently connected.
Main/PIP Port	Specifies the input signal source (**HDMI/DVI/VGA/YPbPr/SDI**) or **Autoscan** (automatically selects the input signal in the following order (firstly CVBS, SDI, YPbPr, VGA, DVI, and lastly HDMI) when more than one signal type is detected). *Note: Make sure to select the correct signal type based on the actual input signal to the Pacific C-A / C-AG to avoid image display problems (e.g., noise, flicker, etc.).* *Upon quitting PacificConfig utility, the last selected input signal source which was stored through "Saved to Flash" button will be automatically shown upon next start-up of the utility.* *If input signal source of the last saved selection is not available upon restarting PacificConfig utility, then the input port will need to be reset. (refer to section 2.1.2, "SETUP" item to "RESET").*

Status Information	
Output Resolution	For configuring the specific output resolution and related frame rate. *Note: The following frame rates are not supported: 23.98, 29.97 and 59.94Hz for models (like the Pacific C-A) without genlock feature (no **Ref IN** port).*
Save to Flash	Saves the current PacificConfig session's parameters to the flash memory of the Pacific C-A / C-AG. The settings will be automatically loaded on next PacificConfig session.
Disconnect	Terminates connection of selected Pacific C-A / C-AG / C-HSS / C-SHS.

Table 2-15 PacificConfig Utility Control Panel Description

2.2.2 Using the PacificConfig Utility

Before using the PacificConfig utility to control Pacific C-A / C-AG, it needs to be set in the same network mask as the connected computer. Please refer to the "Appendix" for further details on setting up the network mask.

To use the PacificConfig utility, perform the following steps:

Step 1. Copy the three PacificConfig utility system files to the computer.

*Step 2. Double-click **PacificConfig.exe**. In case an alert screen appears, click **Unblock** to continue.*

*A Windows Security Alert screen may appear upon using PacificConfig utility for the first time on a computer. Click **Unblock**, and the Windows Alert will not appear on subsequent uses of PacificConfig.*

2.2.3 Status Information

PacificConfig utility allows for easy monitoring of all networked Pacific devices. With 2 clicks of the mouse, view the operational status of any of the Pacific converters that are on the network.

Step 1. Click to select the desired IP address from the Devices on Network window. This action will connect to that particular Pacific device.

- ✓ *The "Status" button will be enabled and the radio button for that Pacific C-A or Pacific C-AG or Pacific C-HSS or Pacific C-SHS would be faintly highlighted.*

Step 2. Click the "Status" button and a popup window will display detailed information about that device's operational status and broadcast output.

- ✓ *Displays the Pacific converter Main port's status information such as input signal type, output resolution and related frame rate, audio source, color correction on/off, sampling, pixel depth, genlock on/off (optional); and input timing such as horizontal/vertical frequency, vertical total lines, horizontal total/start pixel, and vertical start line.*

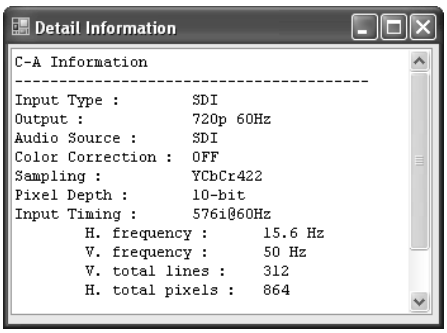


Figure 2-5 Detailed Information of Connected Pacific C-A / C-AG

2.3 Using the Avitech ScreenCrop Utility

1. *This utility can only be used with the Windows operating system.*
2. *This utility's cropping feature cannot be used when **KEYING** is enabled (**Status**: **ON**) in the LCD panel.*

For ScreenCrop to display correctly:

1. *When using a computer that does not support dual displays, make sure to use a DVI cable (or a HDMI cable with a HDMI-to-DVI® adapter) for the **DVI-I IN** port of Pacific to receive the signal. Next, connect a second monitor to the **DVI-D LOOP OUT** port of the Pacific.*
2. *When using a computer with a built-in monitor such as a laptop or an all in one computer or when using a computer that supports dual display outputs, then can connect to the Pacific C-A simply through the **HDMI IN** port.*

The Pacific C-A comes with a windows-based user interface called ScreenCrop. Avitech's ScreenCrop utility is easy to use and hosts several powerful tools that include:

- ✓ *Live Pan Preview*
- ✓ *Area of Interest cropping (supports 2 instances)*
- ✓ *Cropped-area scaling*
- ✓ *Easy adjustment of the output resolution and timing*
- ✓ *The ability to control up to 153 Pacific converters through an Ethernet connection*

With ScreenCrop utility:

- ✓ *Easily air Microsoft PowerPoint presentations and other computer-based content.*
- ✓ *Selects and scales YouTube windows to fit any broadcast output resolution.*
- ✓ *Crops out extraneous interface toolbars and broadcasts clean Google Earth maps.*
- ✓ *Outputs any video stream playing on any media player, such as QuickTime, VLC, or Windows Media Player.*

2.3.1 ScreenCrop Utility Control Panel

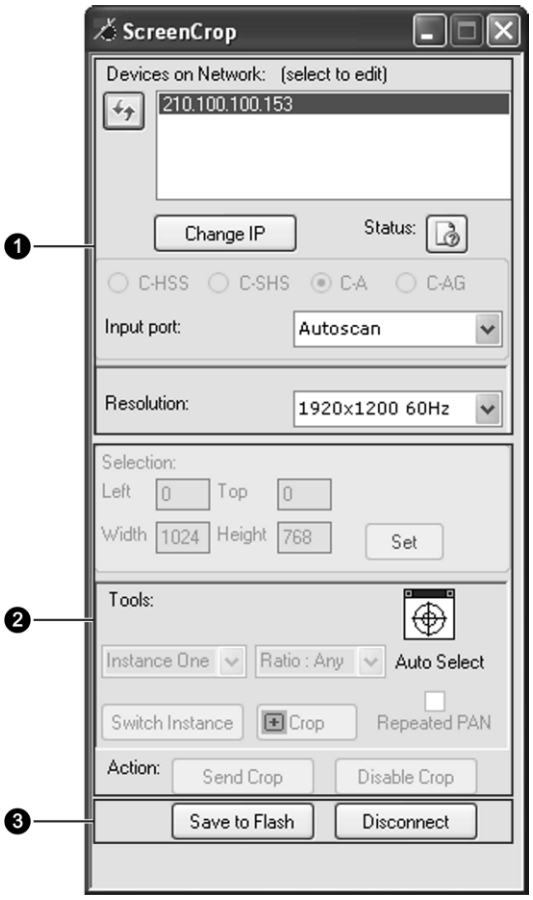


Figure 2-6 ScreenCrop Utility Control Panel

Status Information (1)	
Devices on Network	Displays all detected Avitech's Pacific converters in the same network mask. The status button becomes active (not grayed-out) when Pacific C-A/C-AG/C-HSS/C-SHS is selected from the IP LIST window.
IP List Refresh Button	Click the IP list refresh button to update the connected Avitech devices' IP address in the same network mask.
Change IP	Changes the IP address of selected Pacific C-A/C-AG/C-HSS/C-SHS.
C-A / C-AG / C-HSS / C-SHS	Displays what type of Pacific converter is currently connected.
Input Port	Specify the source port of the input signal or select "Autoscan."
Output Resolution	Configures the specific output resolution and related frame rate.
Status Button	Shows the operational status of the selected Pacific C-A/C-AG/ C-HSS/C-SHS. This button is only available (not grayed-out) when the Pacific C-A/C-AG/C-HSS/C-SHS is selected in the "IP LIST" window (refer to section 2.3.3 for details).

Cropping Feature (2)	
Left/Top/Width/ Height	Displays and adjusts the cropped instance's size and related location.
Set	After entering/adjusting the **Left**/**Top**/**Width**/**Height** parameters, click this button to change the location of the four green cropping corners.
Instance	Chooses between 2 different area of interest instances (**Instance One** or **Two**) and then set the cropping parameters.

Cropping Feature (2)	
Switch Instance	If both **Instance One** and **Instance Two** cropping parameters have been set, then clicking the **Switch Instance** button will toggle between the 2 instances and automatically output the cropping parameters.
Ratio	Sets a fixed (**1:1**, **3:2**, **4:3**, **5:4**, **16:9**) aspect ratio or a non-fixed (**Any**) aspect ratio for any area of interest.
Crosshair	 Automatically selects a window/object to be cropped by positioning the “crosshair” on the desired window/object. ❖ For example, auto-selects a YouTube window or a Google Map.
Crop	Crops an area by dragging the cursor. Upon releasing the left mouse button, 4 green cropping corners will display the area just selected (area of interest).
Repeated Pan	Enables the pan feature for cropped instance (pan anywhere).
Send Crop	Sends the cropped instance to the selected Pacific C-A.
Disable Crop	Disables the cropping.

Cropping feature is only available on the Pacific C-A / C-AG / C-HSS.

Others (3)	
Save to Flash	Saves the current ScreenCrop session’s parameter to the flash memory of the Pacific C-A. The settings can be automatically loaded on the next ScreenCrop session.
Disconnect	Terminates the connection of selected Pacific device.

Table 2-16 ScreenCrop Utility Control Panel Description

2.3.2 Using the ScreenCrop Utility

Before using the ScreenCrop utility to control the Pacific C-A, set it in the same network mask with the connected computer. Refer to the "Appendix A" for further details on setting up the network mask.

To use the ScreenCrop utility, perform the following steps:

Step 1. Copy the 3 ScreenCrop utility system files to the computer.

*Step 2. Double-click **ScreenCrop.exe**.*

*A Windows Security Alert screen may appear upon using ScreenCrop utility for the first time on a computer. Click **Unblock**, and the Windows Alert will not appear on subsequent uses of ScreenCrop.*

2.3.3 Status Information

ScreenCrop utility allows for easy monitoring of all networked Pacific devices. With 2 clicks of the mouse, fully operate any Pacific converters that are on the network.

Step 1. Click to select the desired IP address from the "Device on Network" window. This will connect to that particular Pacific device.

- ✓ *The "Status" button will be enabled and the radio button for the selected Pacific device will be faintly highlighted.*

Step 2. Clicking the "Status" button will display a pop-up window that shows detailed information about the device's operational status and broadcast output.

- ✓ *It gives a status report on the Pacific converter, which includes input signal type, output resolution and related frame rate, audio source, color correction (on/off), sampling, pixel depth, genlock (on/off – for Pacific C-AG model), and input timing (horizontal/vertical frequency, vertical total lines, horizontal total/start pixel, and vertical start line).*

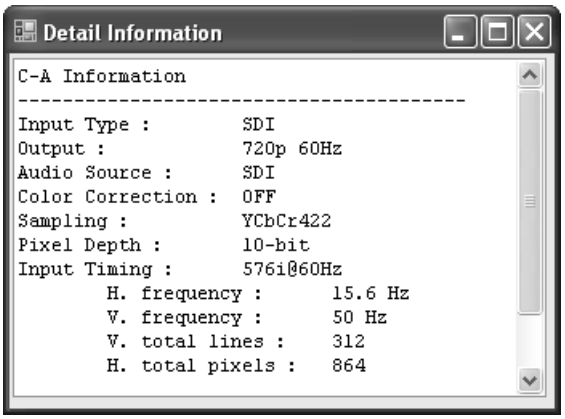


Figure 2-7 Detailed Information on the Connected Pacific C-A

2.3.4 Cropping Feature

ScreenCrop utility sets 2 instances of "area of interest." The associate contents can then be transmitted to the intended audiences. To crop areas of interest, perform the following steps.

*Step 1. Click the **Crop** button and use the cursor to select an area to crop. Upon releasing the left mouse button, 4 green cropping corners will display the selected area.*

- ✓ *A floating 5× magnifying window will display any nearby graphics at 5x and other relevant cursor information (e.g., position and RGB value).*

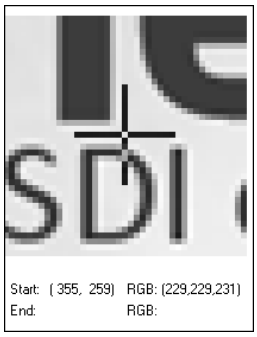
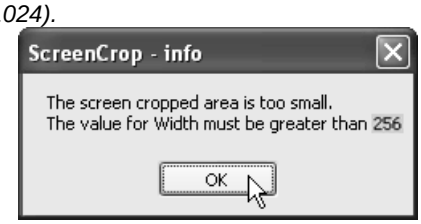


Figure 2-8 Magnified Floating Window Showing Cursor and RGB Value

- ✓ *Click on and drag any of the 4 green cropping corners to enlarge/reduce the area just selected. May also use the keyboard's top/left/right/down buttons to fine-tune the scope of the area to be cropped without using the mouse button.*

- ✓ *For additional fine tuning, manually enter the values of the **Left**/**Top**/**Width**/ **Height** and click the **Set** button. This will modify the scope of area to be cropped at pixel-level accuracy.*

1. *When cropping, **Left**/**Top** position, **Width**, and **Height** are calculated based on module's input display size. The value for **Width** and **Height** must be greater than 20% of the panel width and the panel height.*
   - ✓ *For example, if the module's input display timing is 1280×1024 @ 60Hz, then the panel width is 1280 and the panel height is 1024. The cropped window size must be greater than 256 (20% of 1280) × 204 (20% of 1024).*



2. *Depending on the display resolution, a minimal change in the cropping parameters (**Left**/**Top**/**Width**/ **Height**) may not produce any noticeable effect.*
3. *It is highly recommended to set the displayed image to fill up the monitor's whole screen (use the monitor's built-in display settings to fill the entire screen) to prevent black bar(s) from appearing after cropping.*

*Step 2. Click the **Send Crop** button to send the cropped image back to the Pacific C-A for it to be displayed on the output monitor through the **SDI OUT** connector.*

*Image scaling methods may differ per different graphics cards in the market, causing a pixel or more to be left on the screen (residue from the 4 green corners). Adjust the value of **Left**/**Top**/**Width**/**Height**, and then click the **Set** button to fine-tune the display area for the residue to disappear.*

- ✓ *Automatically selects a window or object to be cropped by clicking and dragging the crosshair button onto the desired window/object to be cropped.*
  - ■ ***Notice** how the mouse cursor has become a crosshair. Continue to hold the mouse button and move around the screen, 4 green corners and a violet rectangle will surround the edge of the selected window/object. When the desired window has been selected, release the left mouse button.*

- ✓ *To do another screen crop, perform these steps once again.*

- ✓ *To discard the area selected, click the **Disable Crop** button.*

*Step 3. Click the **Disconnect** button or close the ScreenCrop utility to disconnect the computer from the Pacific C-A.*

1. *Upon quitting ScreenCrop utility, the parameters (**Left**/**Top**/**Width**/**Height**) from the last crop were stored through the **Saved to Flash** button or the **Send Crop** button, and will be automatically shown upon the utility's next start-up.*
2. *If the current screen resolution is different than the last resolution, then the parameters for cropping will need to be re-adjusted based on the new resolution upon restarting the ScreenCrop utility.*

2.3.5 Cropped Instances Switching

ScreenCrop utility not only crops areas of interest, but it also allows for the selection of 2 separate instances that can be switched accordingly. Perform the following steps to switch between 2 cropped instances.

*Step 1. Use the drop-down menu to select **Instance One** or **Two**, and then set cropping parameters.*

*Step 2. Switch between the 2 "Instances" by clicking the **Switch Instance** button.*

Figure 2-9 Area of Interest (First/Second Instance)

2.3.6 Pan Anywhere

The “Pan” feature allows transfer of a previously-set area of interest to another portion of the screen by clicking the **Repeated Pan** checkbox. Upon enabling the **Repeated Pan** option, the following dialog box will appear.

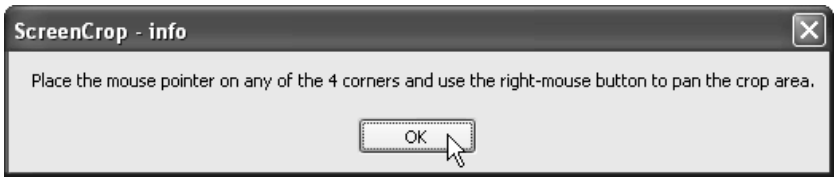


Figure 2-10 Pan Instruction

Follow the instructions in the dialog box: Place the mouse pointer on any of the 4 cropping corners, and then use the right-mouse button to pan the area of interest.

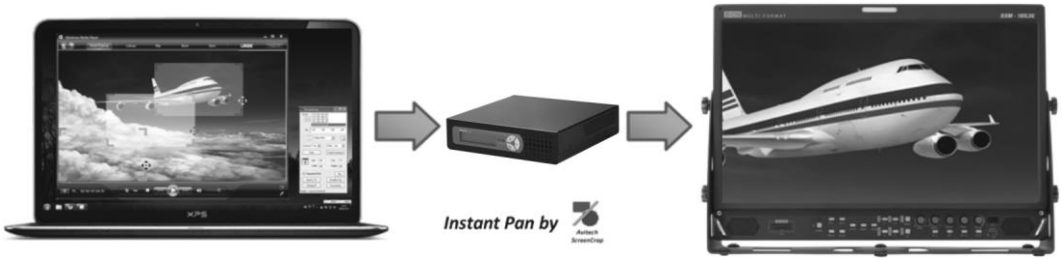


Figure 2-11 Pan Area of Interest

Appendix A Change the IP Address

The following two methods allow Pacific C-A / C-AG / C-HSS / C-SHS to be in the same network mask with the connected computer.

Method 1: Change the IP Address of the Pacific C-A / C-AG / C-HSS / C-SHS

Step 1. *Run PacificConfig utility by double-clicking **PacificConfig.exe**. Select the Pacific C-A / C-AG / C-HSS / C-SHS IP address appearing in **Devices on Network** window. Then click **Change IP**.*

*The following screen will appear showing the current IP address in the **New IP** field. The corresponding **Network Mask** and **Gateway** belonging to the current IP address will be automatically displayed.*

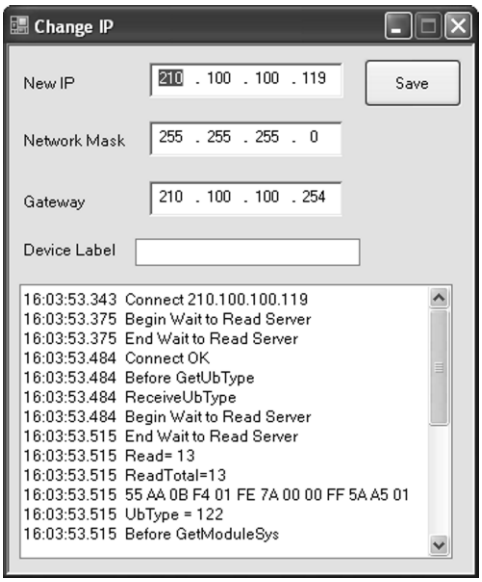


Figure A-1 PacificConfig Utility: Change IP Screen

Step 2. *Enter a **New IP** address. Edit the **Network Mask** and **Gateway**. Then, click **Save**. The IP address will be changed for the target device (saved to flash memory of Pacific C-A / C-AG / C-HSS / C-SHS).*

Step 3. *Enter the **Device Label**. This feature allows the attaching of a label to the corresponding IP address appearing in the **Devices on Network** window. The following window will appear when attempting to exit without setting the **Label**.*

Figure A-2 PacificConfig Utility: Enter Label Prompt

1. *This label can only be seen on the computer running the PacificConfig utility. Any remote computer running the PacificConfig utility will only see the IP address listed in the **Devices on Network** window without the label.*
2. *Upon attaching a label to a particular IP address, a text file will automatically be generated in the **Config** folder of the computer where the **PacificConfig.exe** file was saved. (e.g., 210.100.100.228.txt). A text-editing program can be used to edit the label in this text file. After saving the changes, click the refresh button to see the new label in the **Devices on Network** window.*

*Step 4. Click **Save**. The IP address will be changed for the target device (saved to flash memory of Pacific C-A / C-AG / C-HSS / C-SHS).*

*Step 5. When the next window appears, click **OK** to exit.*

Figure A-3 Save IP Screen

Method 2: Change the IP Address of the Controlling Computer

For Windows XP

*Step 1. Click **Start**, and then right-click the mouse on **My Network Places**, and click **Properties**.*

*Step 2. When the next screen appears, right-click **Local Area Connection** icon, and click **Properties**.*

*Step 3. When next screen appears, click to highlight **Internet Protocol (TCP/IP)**, and click **Properties**.*

*Step 4. When the next screen appears, click the radio button to select **Use the following IP address:**, and then enter the **IP address: 210 . 100 . 100 . x** (where **x** is any value from **1 – 253**), and **Subnet mask: 255 . 255 . 255 . 0**.*

*Step 5. Click **OK** to exit.*

For Windows 7

*Step 1. Click **Start** and type in **Network and Sharing Center**.*

*Step 2. Click **Change Adapter Settings** on the left.*

*Step 3. Right-click the **Local Area Connection** the Pacific is connected to and select **Properties**.*

*Step 4. When the next screen appears, click to highlight **Internet Protocol Version 4 (TCP/IPv4)**, and click **Properties**.*

*Step 5. When the next screen appears, click the radio button to select **Use the following IP address:**, and then enter the **IP address: 210 . 100 . 100 . x** (where **x** is any value from **1 – 253**), and **Subnet mask: 255 . 255 . 255 . 0**.*

*Step 6. Click **OK** to exit.*

Pacific C-A / C-AG Output Resolutions

Input Signals Tested	Output Resolution	**DVI-I Port** (VGA via an adapter) VGA	DVI	HDMI	SDI
Composite	**2048p 24**	X	X	X	✓
VGA (1024 x 768)	**2048p 23.98**	X	X	X	✓
DVI (1080P 60)	**1080p 60**	✓	✓	✓	✓
HDMI (1920 x 1200)	**1080p 59.94**	✓	✓	✓	✓
SD-SDI	**1080p 50**	✓	✓	✓	✓
HD-SDI	**1080p 30**	✓	✓	✓	✓
3G-SDI	**1080p 29.97**	✓	✓	✓	✓
	1080p 25	✓	✓	✓	✓
	1080p 24	✓	✓	✓	✓
	1080p 23.98	✓	✓	✓	✓
	1080i 60	✓	✓	✓	✓
	1080i 59.94	✓	✓	✓	✓
	1080i 50	✓	✓	✓	✓
	1080PsF 24	✓	✓	✓	✓
	1080PsF 23.98	✓	✓	✓	✓
	720p 60	✓	✓	✓	✓
	720p 59.94	✓	✓	✓	✓
	720p 50	✓	✓	✓	✓
	720p 30	✓	✓	✓	✓
	720p 29.97	✓	✓	✓	✓
	720p 25	✓	✓	✓	✓
	720p 24	✓	✓	✓	X
	720p 23.98	✓	✓	✓	X
	SD 625	✓	X	X	✓
	SD 525	✓	X	X	✓

**Table: When the Pacific's output is set to 1080p 60 the signal will be present on all of the ports simultaneously (VGA, DVI, HDMI, and SDI). When output is set to SD 525 the signal will be present only on VGA and SDI ports.*

***Note: To comply with the HDCP license agreement, any source with HDCP encryption cannot be converted to SDI.*

****Pacific C-A / C-AG was tested by viewing its outputs through a Sequoia 2H2U, a Rainier 3G, and a Pacific C-SHS.*

Appendix B Resetting to the Factory-Default State

Method 1

*Step 1. On the LCD panel, go to "**SETUP**"→"**RESET**"→"**On**".*

Step 2. When the following message appears in LCD panel, power-off and then restore power from the power strip to the Pacific C-A.

Figure B-1 Restart the Device

Method 2

Step 1. From the power strip, turn off power to the Pacific C-A.

Step 2. Hold down the down arrow (▼) button on LCD panel and power-on the Pacific C-A by restoring power from power strip until the "INITIALIZING PLEASE WAIT....." message appears in LCD panel.

Step 3. When the "PLEASE RESTART THIS DEVICE NOW" message appears in LCD panel, power-off and then restore power from the power strip to the Pacific C-A.